

IN THE CLAIMS

1. (Currently Amended) A method for filling at least one hole in a printed wiring board, the method comprising the steps of:

providing a printed wiring board with a hole;

plating an inner surface of the hole in the board with a conductor;

applying photoresist material to a first side and a second side of the board;

exposing a portion of the photoresist material on the first side of the board to developing light, wherein the portion of the photoresist material on the first side of the board that is not exposed to developing light covers an opening of the hole on the first side of the board;

exposing the photoresist material on the second side of the board to developing light;

washing the board to remove unexposed photoresist material, wherein the unexposed photoresist material that covers the opening of the hole on the first side of the board is removed; and

filling the hole in the board with a conductor;

wherein the photoresist material substantially prevents the conductor from ~~being plated on~~ contacting the first and second sides of the board during said filling.

2. (Original) The method of claim 1, wherein the conductor is copper.

3. (Original) The method of claim 1, wherein the plating step is electroplating.

4. (Original) The method of claim 1, wherein the diameter of the hole is less than about 0.02 inches.

5. (Original) The method of claim 4, wherein the diameter of the hole is less than about 0.01 inches.

6. (Previously Added) The method of claim 1, wherein the diameter of the hole is less than about 0.02 inches, and an aspect ratio of the hole is greater than about 7.

7. (Original) The method of claim 1, wherein the aspect ratio of the hole is greater than about 7.

8. (Original) The method of claim 7, wherein the aspect ratio of the hole is greater than about 10.

9. (Original) The method of claim 1, wherein the hole is substantially filled with the conductor.

10. (Withdrawn) A printed wiring board comprising a filled hole, wherein the filled hole is filled by the method of claim 1.

11. (Withdrawn) A printed wiring board comprising a filled hole, wherein the filled hole is filled by the method of claim 2.

12. (Withdrawn) The printed wiring board of claim 10, wherein the diameter of the filled hole is less than about 0.02 inches.

13. (Withdrawn) The printed wiring board of claim 12, wherein the diameter of the filled hole is less than about 0.01 inches.

14. (Withdrawn) The printed wiring board of claim 10, wherein the aspect ratio of the filled hole is greater than about 7.

15. (Withdrawn) The printed wiring board of claim 14, wherein the aspect ratio of the filled hole is greater than about 10.

16. (Withdrawn) The printed wiring board of claim 10, wherein the hole is substantially filled with the conductor.

17. (Withdrawn) An apparatus for filling at least one hole in a printed wiring board, the apparatus comprising:

a means for applying photoresist material to a first side and a second side of the board;
a means for exposing a portion of the photoresist material on the first side of the board to developing light, wherein the portion of the photoresist material on the first side of the board that is not exposed to developing light covers an opening of the hole on the first side of the board;
a means for exposing the photoresist material on the second side of the board to developing light;

a means for washing the board to remove unexposed photoresist material, wherein the unexposed photoresist material that covers the opening of the hole on the first side of the board is 5 removed;

a means for plating the inner surface of the hole in the board with a conductor; wherein the photoresist material substantially prevents the conductor from being plated on the first and second sides of the board.

18. (Withdrawn) The apparatus of claim 17, wherein the conductor is copper.

19. (Withdrawn) The apparatus of claim 17, wherein the plating step is electroplating.

20. (Withdrawn) The apparatus of claim 17, wherein the diameter of the hole is less than about 0.02 inches.

21. (Withdrawn) The apparatus of claim 20, wherein the diameter of the hole is less than about 0.01 inches.

22. (Withdrawn) The apparatus of claim 17, wherein the aspect ratio of the hole is greater than about 7.

23. (Withdrawn) The apparatus of claim 22, wherein the aspect ratio of the hole is greater than about 10.

24. (Withdrawn) The apparatus of claim 17, wherein the hole is substantially filled with the conductor.

25. (Withdrawn) A method for filling holes in a printed wiring board, comprising: providing a board including at least a first conductive layer, a second insulating layer; and a third conductive layer;

creating a hole concentrically in said first, second, and third layers;

applying a first conductive material to an inner surface of said hole;

applying a photoresist on the first and third layers;

removing the photoresist in the first layer in an area above said hole;

filling the hole with a second conductive material; and

removing the photoresist;

wherein the photoresist substantially prevents said second conductive material from adhering to unexposed portions of said first layer.

26. (Withdrawn) The method of claim 25, wherein said filling results in said conductive material being electrically connected to said first and third layers.

27. (Withdrawn) The method of claim 25, wherein said applying comprises plating.

28. (Withdrawn) The method of claim 27, wherein said plating comprises applying an electrical potential between said first and third layers.

29. (Withdrawn) A method for filling holes in a printed wiring board, comprising:
providing a printed wiring board;
creating a hole in said printed wiring board;
applying a first conductive material to an inner surface of said hole;
applying a photoresist on first and second opposing sides of said printed wiring board;
removing the photoresist in the first side in an area above said hole;
filling the hole with a second conductive material; and
removing the photoresist;
wherein the photoresist substantially prevents said second conductive material from
adhering to unexposed portions of said first side.

30. (Withdrawn) The method of claim 29, wherein said filling results in said
conductive material being electrically connected to said first and third layers.

31. (Withdrawn) The method of claim 29, wherein said applying comprises plating.

32. (Withdrawn) The method of claim 31, wherein said plating comprises applying an
electrical potential between said first and third layers.